

Remarks

The Office Action mailed November 18, 2004 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-21 are now pending in this application, of which Claim 1 has been amended. It is respectfully submitted that the pending claims define allowable subject matter.

The objection to the title is respectfully traversed. Applicants have amended the Title of the Invention to recite "Surface Mount Header Assembly Having a Planar Alignment Surface." Accordingly, Applicants respectfully submit that the new title is clearly indicative of the invention to which the claims are directed. Applicants therefore request that the objection to the title be withdrawn.

The rejection of Claims 1-9, 11-14, and 16-21 under 35 U.S.C. § 102(b) as being anticipated by Lin et al. et al. (U.S. Patent 5,451,158) is respectfully traversed.

Lin et al. describe a connector (20) having an alignment flange (48) configured to be coupled to and extending rearward from and substantially perpendicular to a rear vertical face (34) of a rear region (26). The alignment flange (48) defines a plurality of vertical alignment channels (50) extending downward from a top surface (52) of the flange (48). The channels (50) are dimensioned to receive and align a tail portion (38 and 38') of the pin contacts (32 and 32'). Accordingly, when the pre-formed pin contacts (32 and 32') are positioned in corresponding apertures (28 and 30) of the connector (20), the respective tail portions (38 and 38') are precisely aligned to engage printed circuit contacts (14). *See* Lin et al. at Col. 5, lines 13-31.

Furthermore, Lin et al. describe an alignment spacer (54) including a bottom surface (56) having a plurality of downwardly extending alignment ribs (58) is positioned and dimensioned to insert into respective alignment channels (50). The respective alignment ribs (58) extend into the respective alignment channels (50) until the respective distal end portions abut the respective tail

IN THE DRAWINGS

Applicants respectfully request approval of the following drawing changes. Figures 1, 2, 7 and 11 are being amended to properly identify the components in accordance with the specification. Specifically, Figures 1 and 2 are being amended to identify notches "129". Figure 7 is being amended to identify edge "191", and to remove reference numerals "201" and "203". Figure 11 is being amended to identify forming die "212". Applicants hereby submit "Replacement Sheets" incorporating the changes to Figures 1, 2, 7 and 11. No new matter has been added.

portions (38 and 38'). This wedges the respective tail portions (38 and 38') between the base of the respective channels (50) and the respective distal ends of the alignment ribs (58), urging the respective surface contact sections (44 and 44') against the corresponding circuit contacts (14). *See Lin et al. at Col. 5, lines 32-51.*

Claim 1 recites a header assembly including “an insulative housing comprising a plurality of walls defining an interior cavity” and “a plurality of contacts within said cavity and extending through one of said walls to an exterior of said housing for surface mounting to a circuit board, wherein said insulating housing comprises at least one alignment rib extending on an exterior surface thereof, said contacts formed against said alignment rib and abutting said alignment rib, thereby ensuring coplanarity of said contacts for surface mounting to a circuit board.”

Lin et al. neither describe nor suggest an insulating housing having at least one alignment rib extending on an exterior surface thereof, wherein the contacts are formed against the alignment rib and abut the alignment rib, thereby ensuring coplanarity of the contacts for surface mounting to a circuit board as recited in Claim 1. More specifically, Lin et al. neither describe nor suggest contacts that are formed against the alignment rib, thereby ensuring coplanarity of the contacts for surface mounting to a circuit board. Rather, in contrast to the present invention, Lin et al. describe a connector having a plurality of preformed contacts inserted into vertical alignment channels of an alignment flange. Moreover, the connector described by Lin et al. requires an alignment spacer having a plurality of downwardly extending alignment ribs to be positioned into the alignment channels to abut the contacts and wedge the contacts between the base of the channels and the alignment ribs, thus urging the surface contact sections of the contacts against the corresponding circuit contacts of the PCB.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Lin et al.

Claims 2-9 depend from independent Claim 1. When the recitations of Claims 2-9 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-9 likewise are patentable over Lin et al.

Claim 11 recites a header assembly including “an insulative housing comprising a plurality of walls defining an interior cavity and a contact interface, and at least one alignment rib extending proximate said contact interface” and “a plurality of contacts having contact sections and solder tail sections, said contact sections located within said interior cavity, said solder tail sections extending exterior to said contact interface for surface mounting to a circuit board, wherein said solder tails abut said alignment rib and are preloaded against said alignment rib as said contacts are installed into said housing, thereby ensuring coplanarity of said solder tail sections for surface mounting to the circuit board.”

Lin et al. neither describe nor suggest an insulative housing having a plurality of walls defining an interior cavity and a contact interface, and at least one alignment rib extending proximate the contact interface as recited in Claim 11. Moreover, Lin et al. neither describe nor suggest contacts having solder tails abutting the alignment rib and preloaded against the alignment rib as the contacts are installed into the housing, thereby ensuring coplanarity of the solder tail sections for surface mounting to the circuit board. More specifically, Lin et al. neither describe nor suggest solder tails that are preloaded against the alignment rib thereby ensuring coplanarity of the solder tail sections for surface mounting to the circuit board. Rather, in contrast to the present invention, Lin et al. describe a connector having a plurality of preformed contacts inserted into vertical alignment channels of an alignment flange. Moreover, the connector described by Lin et al. requires an alignment spacer having a plurality of downwardly extending alignment ribs to be positioned into the alignment channels to abut the contacts and wedge the contacts between the base of the channels and the alignment ribs, thus urging the surface contact sections of the contacts against the corresponding circuit contacts of the PCB.

Accordingly, for at least the reasons set forth above, Claim 11 is submitted to be patentable over Lin et al.

Claims 12-14 depend from independent Claim 11. When the recitations of Claims 12-14 are considered in combination with the recitations of Claim 11, Applicants submit that dependent Claims 12-14 likewise are patentable over Lin et al.

Claim 16 recites a method of assembling a surface mount header assembly, the assembly including an insulative housing including a plurality of walls defining an interior surface, an exterior surface and a plurality of contact apertures extending therebetween, the housing further including an alignment rib extending on the exterior surface, the assembly further including a plurality of electrical contacts, wherein the method includes “inserting the contacts through the contact apertures” and “flexing a portion of the contacts against the alignment rib as the contacts are inserted, thereby preloading the contacts against the alignment rib in a coplanar relationship with one another.”

Lin et al. neither describe nor suggest flexing a portion of electrical contacts against an alignment rib as the contacts are inserted, thereby preloading the contacts against the alignment rib in a coplanar relationship with one another as recited in Claim 16. More specifically, Lin et al. neither describe nor suggest flexing a portion of electrical contacts against an alignment rib. Rather, in contrast to the present invention, Lin et al. describe a connector having a plurality of preformed contacts inserted into vertical alignment channels of an alignment flange. Moreover, the connector described by Lin et al. requires an alignment spacer having a plurality of downwardly extending alignment ribs to be positioned into the alignment channels to abut the contacts and wedge the contacts between the base of the channels and the alignment ribs, thus urging the surface contact sections of the contacts against the corresponding circuit contacts of the PCB.

Accordingly, for at least the reasons set forth above, Claim 16 is submitted to be patentable over Lin et al.

Claims 17-19 depend from independent Claim 16. When the recitations of Claims 17-19 are considered in combination with the recitations of Claim 16, Applicants submit that dependent Claims 17-19 likewise are patentable over Lin et al.

Claim 20 recites a header assembly including “an insulative housing having a mounting face and comprising an alignment rib extending along the mounting face and having a planar alignment edge” and “a plurality of contacts positioned relative to said housing, such that a mounting portion of each of said contacts abuts said alignment edge thereby ensuring coplanarity of said contacts.”

Lin et al. neither describe nor suggest an insulative housing having a mounting face and an alignment rib extending along the mounting face and having a planar alignment edge as recited in Claim 20. Moreover, Lin et al. neither describe nor suggest contacts having a mounting portion abutting the alignment edge thereby ensuring coplanarity of the contacts. Rather, in contrast to the present invention, Lin et al. describe a connector having a plurality of preformed contacts inserted into vertical alignment channels of an alignment flange. Notably, the vertical alignment channels described by Lin et al. do not extend along a mounting face of the connector. Moreover, Lin et al. neither describe nor suggest that the surface contact sections 44 and 44' of the contacts abut any portion of the connector. Rather, the surface contact sections extending rearward from and substantially perpendicular to the respective lower distal end of the respective downward extensions 42 and 42' and an oblique section 40 and 40' is positioned therebetween.

Accordingly, for at least the reasons set forth above, Claim 20 is submitted to be patentable over Lin et al.

Claim 21 depends from independent Claim 20. When the recitations of Claim 21 are considered in combination with the recitations of Claim 20, Applicants submit that dependent Claim 21 likewise is patentable over Lin et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-9, 11-14, and 16-21 be withdrawn.

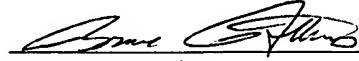
The rejection of Claims 10 and 15 under 35 U.S.C. § 103 as being unpatentable over Lin et al. is respectfully traversed.

Claim 10 depends from independent claim 1. For at least the reasons set forth above, claim 1 is submitted to be patentable over Lin et al. When the recitations of Claim 10 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 10 likewise is patentable over Lin et al.

Claim 15 depends from independent claim 11. For at least the reasons set forth above, claim 11 is submitted to be patentable over Lin et al. When the recitations of Claim 15 are considered in combination with the recitations of Claim 11, Applicants submit that dependent Claim 15 likewise is patentable over Lin et al.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,


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